

Product Data Sheet

Version 3/2012 (04/2014)

SikaFast®-3121/3081N Structural Methacrylate Adhesive

Technical Data

NOTE: Results may differ based upon statistical variations depending upon temperature, application methods, test methods and actual site and curing conditions.		Comp. A: SikaFast®-3121	Comp. B: SikaFast®-3081N
Chemical Base		Toughened 2-component acrylic	
Colour		Natural	White
Colour - Mixed		Straw	
Viscosity Approximate (Brookfield T _e @ 10 RPM)		725,000 cps	150,000 cps
Cure Mechanism		Free radical polymerisation	
Density (Typical)		0.96 kg/L	1.29 kg/L
Density - Mixed (Typical)		0.99 kg/L	
Mixing Ratio (Typical)		By volume 10 : 1	By weight 7.4 : 1
VOC, approximate (Method 40CFR, Pt. 63, Subpt. PPPP, App. A.)		18 g/L	
Consistency - Mixed		Non-sag paste	
Application Temperature (Approx) product		10°C to 35°C	
Open Time (Typical) - Static Mixer		22°C 35°C	5 minutes 2 minutes
Gel Time (Typical at 22°C)		7 minutes	
Peak Exotherm (Typical) Time/Temperature		10 minutes/88°C	
Shore D-Hardness (Approx)		65	
Tensile Strength (Approx) ASTM D 412 ¹		9 MPa	
Elongation at Break (Approx) ASTM D 412 ¹		80%	
Elastic Modulus (Approx) ASTM D 412 ¹		100 MPa	
Service Temperature Range (Approx)		-29°C to 82°C	
Shelf Life - Stored below 22°C away from sunlight		Cartridges - 9 months	
¹ 22°C and 50% Relative Humidity			

Description

SikaFast®-3121 is a fast-curing, flexible, two-component acrylic adhesive for applications requiring quick fixturing for higher through-put. Like other SikaFast®-3000 series adhesives, SikaFast®-3121 is designed to efficiently transfer high loads and evenly distribute stresses. These characteristics distinguish SikaFast®-3121 from other acrylic adhesives that claim high strength and elongation. SikaFast®-3121 bonds many materials without surface preparation or priming and cures rapidly at room temperature.

Product Benefits

- High strength
- Fast-setting and -curing
- High elongation
- High ductility
- Good damping properties
- Excellent adhesion to a wide variety of substrates with little or no surface preparation

Areas of Application

SikaFast®-3121 is a 10:1, two-part structural adhesive designed to substitute or complement welding, riveting, clinching and other mechanical fastening techniques used in the manufacture of transportation vehicles and assembly components. SikaFast®-3121 is suitable for bonding sidewall panels, roofs, floors and parts made of aluminium, stainless or galvanized steel and fibre reinforced polymers. Use only with SikaFast®-3081N or SikaFast®-3083N. This product is suitable for experienced professional applicators only. Tests with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.



Cure Mechanism	SikaFast®-3121 cures by free radical polymerisation. For an ideal curing process, both components must be homogeneously mixed within the defined ratio. SikaFast®-3121 offers a short Open Time followed by fast curing. Despite the quick strength build-up, premature exposure to stresses must be avoided so as not to reduce its mechanical properties and lose adhesion. Adjustment of the bonded parts is possible within the Open Time.
Chemical Resistance	Cured SikaFast®-3121 has good resistance to alcohols, glycols, diluted acids and bases, water and crude oil. Cured product is not resistant to gasoline, kerosene and low molecular weight aldehydes and ketones. The above information is offered for general guidance only. Advice on specific applications will be given upon request. Actual chemical resistance of bonded components must be tested.
Surface Preparation	Surfaces must be clean, dry and free from grease, oil and dust. Remove all loose particles or residues by thorough cleaning with, for example, an IPA wipe. Due to the diversity of substrates, preliminary testing is necessary. Advice on specific applications is available from the Technical Services Department of Sika Industry.
Application	Insert the cartridge into the dispensing tool and attach a manufacturer-recommended static mixer (Sika recommends a high quality pneumatic dispense gun, such as the Sulzer MixPac 400/100 with 10:1 cradle; for the static mixers, Sika recommends Sulzer MixPac MFX 10-18 or MEFX 13-18 or MFX 13-18, keeping in mind that the 13-18 mixers will allow for a faster flow rate). Bondline thickness should not exceed 3 mm. Larger bondlines are possible, but must be approved by Sika Technical Services. Suitability of adhesive must be determined by laboratory testing prior to application. Apply mixed adhesive to one substrate; mate with other material within the stated Open Time. NOTE: Cure data given in this Product Data Sheet are measured at 22°C. Cooler temperatures slow the cure reaction, while higher temperatures hasten it. This must be considered when determining the suitability of this product for any application and assembly process. Application of stress to the bonded parts before the stated (or temperature-adjusted) fixture time can cause permanent destruction of the adhesive bond layer and result in failures.
Removal	Excess material can best be removed before curing with a dry wipe. Uncured SikaFast®-3121 may be removed from tools and equipment with a suitable solvent. Cured material can only be removed mechanically. A solvent wipe should follow mechanical removal if re-bonding is to be carried out.
Over-painting	If over-painting is desired, the paint and paint process compatibility must be tested before use. SikaFast®-3121 should not be exposed to paint-baking temperatures until it has attained full cure. It should be understood that the hardness and film thickness of the paint may impair the elasticity of the adhesive and lead to cracking of the paint film over time. Contact Sika Technical Services for additional advice.
Further Information	Copies of the following publications are available upon request: Material Safety Data Sheet, Additional Technical Information Sheet and Sika Pre-Treatment Chart.
Packaging	12 x 490 ml dual cartridges.
Value Bases	All technical data stated in this Product Data Sheet are laboratory test-based. Current measured values may vary due to factors beyond our influence.
Health and Safety Information	For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the current Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data for the appropriate type of substance. Product Data Sheets and Material Safety Data Sheets are available on our website at: www.sika.ca or via your local Sika representative.

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelf life. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.

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